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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/502,210	07/21/2004	Christopher K. Haas	57787US007	1825
32692	7590	07/18/2006	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY			DESAI, ANISH P	
PO BOX 33427			ART UNIT	
ST. PAUL, MN 55133-3427			PAPER NUMBER	
			1771	

DATE MAILED: 07/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.	Applicant(s)	
	10/502,210	HAAS ET AL.	
	Examiner	Art Unit	
	Anish Desai	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16--34 is/are rejected.
- 7) ☒ Claim(s) 15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/22/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The applicant's arguments in response to the Office action dated 02/08/06 have been fully considered.

1. Claims 1-34 are pending. Claim 34 is a newly added claim. Support for the newly added claim 34 is found in the specification.
2. All of the claim objections are withdrawn in view of the present amendment and response (see pages 5-9 of 04/26/06 amendment).
3. The 112 rejections are withdrawn. However, upon further consideration a new 112 rejection is made.
4. The art rejections of Perez et al. (WO 02/00982A1) are withdrawn in favor of 102/103 type rejections.
5. The art rejections of Emslander (US 4,733,786) in view of Tusim et al. (US 6,251,319) are withdrawn in view of the present amendment and response (see pages 13-17 of 04/26/06 amendment). The reference of Tusim is non-analogous.
6. The obviousness-type double patenting rejections are withdrawn because the terminal disclaimer filed on 04/26/06 disclaiming the terminal portion of any patent granted on this application, which would extend beyond the expiration date of 10/502,229 has been reviewed and is accepted. The terminal disclaimer has been recorded.

International Search Report

7. The applicant has provided the international search report citing US 2001/0000236A1 as "X" reference. The examiner has reviewed aforementioned reference but not agreed with the citation of the ISR because the US 2001/0000236A1 does not teach high melt strength polypropylene foam.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

8. Claims 13 and 14 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure, which is not enabling. The applicant should further define the structure of the core that is critical or essential to the practice of the invention, but it is not included in the claim(s) is not enabled by the disclosure. See *In re Mayhew*, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 recites, "security element is revealed through a substantially transparent region in said foam layer", it is unclear as to how the security element is revealed?

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Allowable Subject Matter

10. Claim 15 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The most pertinent is WO 02/00982A1 to Perez et al. Perez does not teach or suggest security element comprising plurality of laterally spaced cores embedded in the thermoplastic film layer and core comprising a thermoplastic polymer having dyes or pigments, or color shifting, polarizing, fluorescent, luminescent, phosphorescent, reflective, metallic, or magnetic particles dissolved or dispersed therein.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-9, 11, 13, 16-21, and 23-34 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Perez et al.

(WO 02/00982A1). US 6,468,451 to Perez et al. is relied on as an equivalent form of WO 02/00982A1 for convenience.

Perez teaches a high-melt strength oriented polypropylene foam articles (Column 1, lines 1-7). Additionally, at Column 14, lines 23-25, Perez teaches that polypropylene foam articles are suitable as receptive surface for printing. Although Perez does not explicitly disclose a security element as claimed in claim 1, however as recited in the claim 1, since there are no structural limitations associated with the security element and further a printed indicia is considered to be a security element by the applicant (see specification), the aforementioned polypropylene foam of Perez with print receptive surface is capable of functioning as a security element. Regarding claims 2 and 3, since the print receptive surface of the polypropylene foam of Perez is capable of being printed, the printed surface of polypropylene foam article reads on visual security element and printed indicia as claimed in claim 3. Additionally with respect to claim 3, the foam article of Perez also comprises fibers (Figure 5), which meets the claim limitation of visual security element is fibers as claimed in claim 3. With respect to claims 4 and 5, Perez et al. teach fibrillation of the foam using a mesh pattern support screen, the resulting schistose surface bears a pattern resembling the wrap and weft of a textile (Column 12, lines 20-25). With respect to claim 6, Perez teaches a release coating comprising thermoplastic film (Column 16, lines 11-12) that is applied to the foam backing (Column 15, lines 48-50, Column 14, line 67). The thermoplastic film layer of Perez reads on the thermoplastic film layer as claimed in the present invention. With respect to claims 7 and 8, the thermoplastic film layer of the Perez comprises

pigments, which are considered as security element integral to the thermoplastic film layer as claimed in claim 7. With respect to claim 8, the printed surface of the polypropylene foam article of Perez reads on the security element integral to the foam layer as claimed in the claim 8. With respect to claim 9, the printed surface of Perez reads on the security element selected from the group of printed indicia as claimed in the claim 9. Regarding claim 11, Figures 5 and 6 of Perez discloses fibers that are on top of each other. Note that the security element of the applicant can also be fibers (specification), therefore it is the examiner's position that fibers of Perez read on at least two security elements, which in registration provide a visual security element as claimed. Regarding claim 13, the pigments of the thermoplastic film layer of Perez as disclosed above reads on the claimed core. Regarding claim 14, although Perez does not explicitly teach core comprising a colored, phosphorescent, pearlescent or fluorescent polymer, it is known in the art to use fluorescent polymers as pigments as evidenced by US 5,151,516 (column 10, lines 27-31). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use fluorescent polymers as pigments in the invention of Perez because it is known in the art to use fluorescent polymers as pigments.

With respect to the recitation "security element is coextruded with said foam layer by an inclusion extrusion process" (claim 17), "security element is coextruded with said film layer by an inclusion coextrusion process" (claim 18), "thermoplastic film layer is co extruded with said film layer by an inclusion exclusion process" (claim 20), "security element is coextruded with said film layer by an inclusion coextrusion process" (claim

21) are directed towards product by process limitations. The products by process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "Even though product by process claims are limited by and defined by the process, determination of patentability is based on the product itself. The patentability of a product does not depend on its method of production. If the product in the product by process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process." *In re Thorpe*, 227 USPQ 964, 966 (Fed. Cir. 1985).

Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art, although produced by a different process, the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art product. *In re Marosi*, 218 USPQ 289, 292 (Fed. Cir. 1983). In the instantly claimed invention, the applicant is using an oriented, high melt-strength polypropylene foam layer, a thermoplastic film layer, and a security element. Perez also teach high melt-strength polypropylene foam wherein the polypropylene foam has print receptive surface and a thermoplastic film layer, additionally the thermoplastic film layer of Perez comprises pigments.

With respect to claim 23, Perez is silent as to teaching of orientation of the thermoplastic film. Regarding claim 24, although Perez does not teach the presently claimed properties of thermoplastic film layer and the high melt strength polypropylene foam layer having a bending stiffness of at least 40 Newton, it is reasonable to presume

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that the thermoplastic film layer and the high melt strength polypropylene foam layer of Perez has the bending stiffness of at least 40 Newton because like material has like property. As disclosed above, Perez teaches the same type of oriented, high melt strength polypropylene foam layer and thermoplastic film layer as the applicant, therefore the presently claimed property of bending stiffness of at least 40 N would have been present.

With respect to claim 25, the melt-strength of polypropylene is in the range of 30 to 55 cN (Column 2, lines 63-65). With respect to claim 26, the polypropylene foam is stretched biaxially (Column 8, lines 50-51). Regarding claims 27-29, Perez teaches the foamable polypropylene consist of blends of propylene homopolymers and copolymers having 50 wt % or more propylene monomer (Column 3, lines 25-27). Moreover, Perez teaches propylene copolymer include random, block, and graft copolymers of propylene and olefin monomers selected from the group consisting of C3-C8 alpha olefins and C4-C10 dienes (Column 3, lines 32-36). Perez further teaches that other polymers such as ethylene/acrylic acid and ethylene vinyl acetate can be added to the polypropylene. Ethylene/acrylic acid and ethylene vinyl acetate are semicrystalline polymers. With respect to claim 30, the print receptive surface of polypropylene foam read on the security element on a surface of the foam layer as claimed in claim 30. Regarding claim 31, the foam article of Perez comprises fibers, which reads on the claim limitation of a security element dispersed in said foam layer. With respect to claim 32, the printed surface of the foam layer of Perez reads on the security element is laminated to said foam layer as claimed. With respect to claim 33, although Perez does not specifically

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disclose a security document, however it has been held that the recitation with respect to the manner in which a claimed security substrate is intended to be employed does not differentiate the claimed printable substrate from a prior fibrillated foam satisfying the claimed structural limitations. With respect to claim 34, Perez discloses foams having average cell sizes less than 100 micrometers (column 8, lines 42-43).

Accordingly, Perez anticipates or strongly suggests the claimed subject matter.

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12. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perez et al. (WO 02/00982A1) in view of Pedginski et al. (US 5,807,632).

The invention of Perez as applied to claims 1 and 6 is previously disclosed. Perez is silent as to teaching of thermoplastic film layer is oriented. However, Pedginski teaches a release coated film wherein the release coated film can be oriented (column 4, line 19). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to orient the thermoplastic film of Perez, motivated by the desire to enhance the strength of the thermoplastic film.

13. Claims 1,6, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 02/00412 A2 in view of Kretman et al. (US 6,497,946 B1).

WO 02/00412 teaches high melt strength polypropylene foam that can be used in applications such as a diffuse reflector (abstract). Further WO 02/00412 teaches useful laminated constructions include the high melt strength polypropylene foam layer with a thermoplastic film layer (page 17, lines 1-2). WO 02/00412 is silent as to teaching of security element is a polarizing element. However, Kretman teaches diffuse reflective articles. Further, Kretman discloses diffuse reflective article comprising polarizing film. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the polarizing film of Kretman to create diffuse reflective article because such is an intended use of the high melt strength polypropylene foam of WO 02/00412.

14. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Perez et al. (WO 02/00982A1) as applied to claims 1 and 6 above, further in view of Mody et al. (US 5,605,729).

The invention of Perez et al. as applied to claims 1 and 6 is previously disclosed. Perez further teaches the article suitable as a loop fastener. Perez does not specifically disclose the article comprising two high melt-strength polymer foam layer and a thermoplastic film layer disposed there between. However, Mody et al. teach a loop fastener comprising two foam backings 16 and a loop layer 14 disposed as shown in Figure 1. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the loop fastener having a layer construction as shown in the reference of Mody et al., because such is an intended use of the material and Mody provides necessary details to practice the invention of Perez et al.

Response to Arguments

15. With respect to applicant's argument that the reference of Perez describes the fibrillated foam articles prepared by fibrillating a high melt strength polypropylene substrate and the foamed substrate of Perez does not have foam morphology after the fibrillation process. The examiner respectfully disagrees. It is true that the foam substrate of Perez and fibrillated foam are two different products, however the difference between them is not present in claims. Further, Perez discloses that certain areas of the foam may also be masked, using conventional masking agents to leave selected areas free from fibrillation (column 12, lines 8-12). Additionally Perez discloses

that masked portions of the foam will not be fibrillated, preserving the original properties of the foam in the masked areas (column 12, lines 28-31). Thus, the foam morphology is not completely lost in the entire foamed substrate of the Perez.

The applicant argues that claims 2 and 3 each refer to “visual security elements” and the applicant have describe the term “visual security element” in the specification, thus Perez provides no teaching or suggestion of such visual security elements. The examiner recognizes that the applicant has provided definition of the term visual security element in the specification. However, such definition is not in the claim. Additionally, applicant’s visual security element can be a “printed indicia” (see claim 3) and as disclosed above the foam of the Perez has a print receptive surface (i.e. can be printed). Thus, the printed matter on the surface of the foam of the Perez meets the claim limitation of visual security element. Regarding claims 4 and 5, the applicant argues that Perez does not disclose embossment and that the embossment provides substantially transparent region. The examiner respectfully disagrees. Note that the foam of the Perez is supported using a screen having predetermined pattern or mesh size to impart a pattern (column 12, lines 19-22), such pattern would necessarily create embossment, which would provide transparent region.

Regarding claim 7, the applicant argues that the teachings of Perez merely disclose that pigments may be added to the release coating. Thus, a pigmented coating does not contemplate security elements. The examiner respectfully disagrees. Note that claim 7 depends from claim 6 and claim 6 depends from claim 1. Neither of these claims defines any structure or composition associated with the claimed security

element. These claims broadly recite "security element". Thus, a pigmented coating is considered as "security element".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anish Desai whose telephone number is 571-272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

APD



**HAI VO
PRIMARY EXAMINER**